REMARKS

Claims 1-9 and 11-18 are pending in this application. In light of the following remarks, applicants respectfully request reconsideration of the application, withdrawal of the finality of this Office Action, entry of this response and allowance of the pending claims to issue.

I. Request for withdrawal of finality of Office Action

The Office Action states that the present rejection is made final even though it is a first action after the filing of a Request for Continued Examination and submission under 37 C.F.R. § 1.114 on the basis that "all claims are drawn to the same invention in the application prior to the entry of the submissions under 37 C.F.R. § 1.114 and could have been finally rejected on the grounds and art of record in the next Office Action if they had been entered in the application prior to entry under 37 C.F.R. § 1.114."

Applicants respectfully request withdrawal of the finality of this Office Action on the basis that this first action final rejection is improper. In particular, applicants submitted a Response in reply to the December 18, 2002 final Office Action previously issued in this case. In that response, filed April 10, 2003, applicants presented claim 13, amended as follows:

A pair of oligonucleotide primers consisting of:

(i) a first hybridizing oligonucleotide selected from the group consisting of:

SEQ ID 1: G GGC GCC ACT GCT AGA GA;

SEQ ID 2: G TTC GGG CGC CAC TGC TAG A; [and]

SEQ ID 3: CGG GCG CCA CTG CTA; and

SEQ ID 9: aat tct aat acg act cac tat agg gAG AGG GGC GCC ACT GCT AGA GA; and

(ii) a second hybridizing oligonucleotide selected from the group consisting of:

SEQ ID 4: CTG CTT AAA GCC TCA ATA AA;

SEQ ID 5: CTC AAT AAA GCT TGC CTT GA; and

SEQ ID NO:12: GAT GCA TGC TCA ATA AAG CTT GCC TGG AGT.

This amended claim 13 was not entered. An Advisory Action issued June 27, 2003 states only that the amendments filed April 10, 2003 were not entered in the present application because "they present additional claims without canceling a corresponding number of finally rejected claims." There is no mention in the Advisory Action that the amendments were not entered because they raise the issue of new matter.

However, the very same subject matter that was presented in amended claim 13 and denied entry is now the basis for a new matter rejection in the present final Office Action. Specifically, in applicant's submission that accompanied the filing of an RCE on September 17, 2003, applicants provided claim 13, amended as follows:

A pair of oligonucleotide primers consisting of:

(i) a first hybridizing oligonucleotide selected from the group consisting of:

SEQ ID 1: G GGC GCC ACT GCT AGA GA;

SEQ ID 2: G TTC GGG CGC CAC TGC TAG A; [and]

SEQ ID 3: CGG GCG CCA CTG CTA; and

SEQ ID 9: aat tct aat acg act cac tat agg gAG AGG GGC GCC ACT GCT AGA GA; and

(ii) a second hybridizing oligonucleotide selected from the group consisting of:

SEQ ID 4: CTG CTT AAA GCC TCA ATA AA; and

SEQ ID 5: CTC AAT AAA GCT TGC CTT GA~~; and~~

~~SEQ ID NO:12: GAT GCA TGC TCA ATA AAG CTT GCC TGG AGT~~.

As noted below, in the present Office Action, claims 13-18 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing new matter, on the basis that the combination of an oligonucleotide of SEQ ID NO:9 and an oligonucleotide of SEQ ID NO:4 is not supported by the disclosure of the specification.

Applicants point out that this alleged new matter was present in the amended claim 13 filed April 10, 2003 and that if it is proper and necessary to reject amended claim 13 in the present action as introducing new matter, it would have been proper and necessary to

reject amended claim 13 in the April 10, 2003 response as introducing new matter. It would then also have been proper and necessary to indicate on the June 27, 2003 Advisory Action that the amendments submitted in response to the final Office Action issued December 18, 2002 were not entered because they raise the issue of new matter. Had the Examiner acted properly in this manner, he would have been precluded from issuing the present Office Action as a final rejection because it is clearly stated in M.P.E. P § 106.07(b) that "...it would not be proper to make final a first Office Action in a continuing or substitute application where that application contains material which was presented in the earlier application after final rejection or closing of prosecution but was denied entry because (A) new issues were raised that required further consideration and/or search, or (B) the issue of new matter was raised."

Thus, the finality of the present Office Action is improper in view of the new matter rejection. It is applicants' position that the new matter issues raised by the amendment of claim 13 could have and should have been pointed out as a basis for denial of entry of the April 10, 2003 response into the present application and that had this been properly pointed out, the present first action final rejection would be improper. Therefore, applicants believe the finality of this Office Action is improper and its withdrawal is respectfully requested. Should the finality of this Action be maintained, applicants respectfully request a statement of explanation not only from the Examiner, but also from the Examiner's supervisor, Mr. Gary Benzion, with whom applicants have discussed this matter.

II. Rejection under 35 U.S.C. § 112, first paragraph

The Office Action states that claims 13-18 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly introducing new matter by the amendment of claim 13. Specifically, the Office Action states that the claim encompasses combining SEQ ID NO:9 with SEQ ID NO:4, but that no support for this combination can be found in the specification. The Examiner also alleges that "it appears that applicant is attempting to satisfy the written description requirement of 35 USC 112, first paragraph, through

obviousness" and cites case law to support the position that obviousness cannot be relied upon for satisfaction of the written description requirement.

Applicants respectfully point out that the Examiner has erred in making assumptions regarding applicants' attempts to satisfy the written description requirement, because applicants have no need to rely upon obviousness to support claim 13 as amended, because adequate support for this amendment is present in the specification as filed.

In particular, the following is stated on page 7, lines 17-30 of the specification.

> A preferred embodiment of the present invention is a combination of two oligonucleotides according to the invention, for use as a set in nucleic acid amplification. Such a pair of oligonucleotides, for use as a set in the amplification of a target sequence located within the LTR region of the genome of HIV-1, consists of a first nucleotide being 10-50 nucleotides in length and comprising, at least a fragment of 10 nucleotides, of a sequence selected from the group consisting of:
> SEQ ID 1: G GGC GCC ACT GCT AGA GA
> SEQ ID 2: G TTC GGG CGC CAC TGC TAG A
> SEQ ID 3: CGG GCG CCA CTG CTA
> and a second oligonucleotide being 10-50 nucleotides in length and comprising at least a fragment of 10 nucleotides, of a sequence selected from the group consisting of:
> SEQ ID 4: CTG CTT AAA GCC TCA ATA AA
> SEQ ID 5: CTC AAT AAA GCT TGC CTT GA
> SEQ ID NO:12: GAT GCA TGC TCA ATA AAG CTT GCC TGG AGT.

It is clear from this disclosure that SEQ ID NO:9 is included within the genus of first oligonucleotides of this invention. Specifically, such a first oligonucleotide is defined as being 10-50 nucleotides in length and comprising, at least a fragment of 10 nucleotides, of a sequence selected from, among other sequences, SEQ ID NO:1: G GGC GCC ACT GCT AGA GA. A review of the nucleotide sequence of SEQ ID NO:9 demonstrates that it fulfills this definition and thus is adequately described as included among the first oligonucleotides of this invention. SEQ ID NO:4 is disclosed to be a member of the genus of second oligonucleotides of this invention. Thus, the embodiment of SEQ ID NO:9 and

SEQ ID NO:4 as a primer pair of this invention is fully supported by the disclosure on page 7.

Support for the combination of SEQ ID NO:9 and SEQ ID NO:4 as a pair of oligonucleotides of this invention is also evident in the language of originally presented claim 12, which recites a test kit comprising one or more of the oligonucleotides of claims 1 or 2. Original claim 2 recites, among others, both SEQ ID NO:4 and SEQ ID NO:9, and the recitation of original claim 12 of one or more of the oligonucleotides of claim 2 adequately supports the combination of SEQ ID NO:4 and SEQ ID NO:9 as an embodiment of the present invention. Thus, it would be readily apparent to one of ordinary skill in the art that applicants possessed this embodiment as presented in amended claim13 and that no new matter is introduced thereby.

Applicants also point out that claims 15-18 do not encompass the combination of SEQ ID NO:9 and SEQ ID NO:4 and are thus improperly rejected as introducing new matter.

For the reasons set forth above, the present rejection has been rendered moot and its withdrawal is respectfully requested. If this rejection is maintained, applicants request a detailed statement from both the Examiner and the Examiner's supervisor regarding the reason it is maintained.

III. Rejection under 35 U.S.C. § 103

The Examiner has maintained the rejection of claims 1-9 and 11-14 and now rejects claims 16 and 18 under 35 U.S.C. § 103 as allegedly being unpatentable over Montagnier et al. in view of Backus et al and Research Genetics. Specifically, the Office Action states that Montagnier et al. discloses primers for detecting HIV-1 and of directing primers to conservative regions. The Office Action acknowledges that Montagnier et al. does not explicitly teach applicants' sequences.

The Office Action goes on to describe Backus et al. as disclosing that primers can

range in size or length from 12 to 60 nucleotides and that a preferable range is from 16 to 40 nucleotides and that a more preferable range is from 18 to 35 nucleotides. The Office Action then notes that applicants' SEQ ID NO:1 comprises 18 nucleotides, SEQ ID NO:2 comprises 20 nucleotides, SEQ ID NOs:4 and 5 comprise 20 nucleotides each and SEQ ID NO:12 comprises 30 nucleotides. The Office Action further states that oligonucleotides corresponding to SEQ ID NOs:2, 4 and 24 in the Backus et al. patent comprise the nucleotide sequence as found in applicants' oligonucleotides represented by SEQ ID NOs:1, 2, 4 and 5.

It is further stated in the Office Action that an advertisement in Research Genetics discloses for sale a software program that allows the ordinary artisan to set parameters whereby the software will automatically screen all possible sequence comparisons and provide a listing of those primers that meet the established criteria. The Office Action goes on to state that such parameters to be employed in the selection of primer and probe sequences include desired specificity, length, GC content, secondary structure consideration, etc.

From these alleged disclosures, the Office Action contends that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the software of Research Genetics with the teachings of Backus et al. and Montagnier et al. to select the specifically claimed primers and probes of the present invention from the LTR region of HIV-1 where such sequences are identified through the use of the commercially available software.

Applicants respectfully traverse this rejection and maintain their previously asserted position that the claimed invention would not have been obvious to one of ordinary skill in the art at the time this invention was made.

Furthermore, applicants provide herewith an executed Declaration under 37 C.F.R. § 1.131 that effectively removes the Backus et al. reference from consideration as prior art. The Declaration provides evidence that the inventors conceived and reduced to practice the oligonucleotides and methods of the pending claims prior to the June 25, 1997

priority date of the Backus et al. reference. Thus, this document is not available as a prior art document against the pending claims and applicants respectfully request that it be withdrawn from consideration in this rejection and that the rejection be withdrawn on the basis that the remaining references fail to demonstrate that the claimed invention was obvious at the time this invention was made.

In particular, the present rejection cannot be sustained on the basis of Montagnier et al. and/or the Research Genetics advertisement, either alone or in any combination. Specifically, the Examiner himself acknowledges in the present Office Action that Montagnier et al. "...do not teach explicitly of applicants' sequences." (Paragraph 8 of December 18, 2002 Office Action; Paragraph 10 of November 19, 2003 Office Action). The Examiner also states that all disclosure of any particular sequences and sizes of primers to which the public would be directed to produce the claimed invention allegedly is provided only from the Backus et al. reference. Without the disclosure of the Backus et al. reference, the public would be "armed with" nothing more than a general reference to the use of PCR, carried out with several primer pairs and probes derived from "...highly conserved regions of the viral genome, such as the LTR, qao, and env regions of HIV-1" (Montagnier et al., columns 19 and 20, bridging paragraph) and an advertisement describing basic features of a software program for designing PCR primers. As applicants have argued again and again, these teachings provide no suggestion or motivation to even choose a sequence in the LTR region of the HIV genome over a sequence in the qao or env regions to produce oligonucleotides to detect HIV, much less choose the specific oligonucleotides or their combinations as claimed herein. Thus, it is clear that the specific sequences recited in the claimed invention and in particular, the claimed combinations of sequences would in no way have been obvious to one of ordinary skill in the art because neither Montagnier et al. nor the Research Genetics advertisement, alone or in any combination, provide any motivation or guidance whatsoever to produce these particular sequences and/or to employ them in methods to detect HIV.

Furthermore, although applicants believe this rejection has been overcome for the reasons set forth above, applicants also point out that the Examiner has consistently cited the advertisement by Research Genetics in combination with either McDonough et al.

(July 20, 2000 Office Action), Montagnier et al. (February 14, 2001 Office Action and July 31, 2001 Office Action), or Montagnier et al. and Backus et al. (April 5, 2002 Office Action and December 18, 2002 Office Action) in support of his rejection of all the claims under 35 U.S.C. § 103. Thus, this advertisement has been included in an obviousness rejection of the pending claims six times now in combination with various other art references, indicating to applicants that although the other art references have varied, it is the Examiner's position that this advertisement in particular is essential in supporting a rejection of the pending claims as obvious. Applicants have reviewed this advertisement and presented detailed arguments to the Examiner in both the December 19, 2000 response and the June 13, 2001 response, setting forth several well-reasoned statements regarding why the use of the software program described in the advertisement by Research Genetics would not produce the oligonucleotides and/or primer pairs of the claimed invention without knowledge of the present invention and with or without the teachings of McDonough et al, Backus et al. and/or Montagnier et al., thus leading to the reasonable conclusion that this reference does not render the claimed invention obvious. Applicants have requested a detailed response to these arguments from the Examiner and have even requested that the Examiner "...make of record appropriate evidence indicating all the capabilities of the prior art that is being cited." (page 3, third paragraph of June 13, 2001 response.)

However, although the Office Action states that applicants' arguments have been considered and have not been found persuasive in overcoming this rejection, applicants have never received a detailed explanation regarding why applicants' arguments fail to demonstrate that the Research Genetics advertisement does not render the claimed invention obvious. Instead, the same brief paragraph of what is disclosed in the advertisement appears again and again in each subsequent Office Action and there has been no further comment from the Examiner regarding this particular reference or any specific reply to applicants' comments about this reference. Thus, although applicants believe that the removal of the Backus et al. reference obviates the pending 103 rejection, applicants reiterate all of the arguments previously of record in this case and, should the Examiner maintain this rejection, applicants once again specifically request a more detailed explanation from both the Examiner and directly from the Examiner's supervisor,

Mr. Gary Benzion, regarding why these arguments fail to overcome the present rejection, with detailed comment requested that specifically addresses applicants' arguments regarding the Research Genetics advertisement. Applicants request these comments for the purpose of having the opportunity to fully respond to this rejection and to provide a more complete record in the event of an appeal.

As the Examiner is aware, the Declaration and arguments presented herein were submitted in the September 17, 2003 response to overcome this same rejection under 35 U.S.C. § 103 as provided in the December 18, 2002 Office Action. As noted in the September 17, 2003 response, an unsigned version of the Declaration was provided, with a statement that an executed version would be provided shortly thereafter. Applicants submitted an executed version of the Declaration to the U.S. Patent and Trademark Office on November 6, 2003, which was 13 days before the present Office Action was mailed. It is applicants' understanding that this signed Declaration is now in this file. However, as a convenience to the Examiner, applicants include an executed version of the Declaration with the present response and applicants respectfully request that this obviousness rejection be re-evaluated in view of this document.

Applicants also wish to comment on the Examiner's response to applicants' previous request for a detailed explanation, not only from the Examiner but also from the Examiner's supervisor, of why applicants' previous arguments regarding the Research Genetics advertisement have not been persuasive in overcoming this rejection. Specifically, Examiner Sisson responds to this request on pages 8-9 in paragraph 18 of the present Office Action as follows:

> At page 10, last paragraph, applicant requests the Office to provide "a detailed explanation regarding why the arguments presented by applicants fails to demonstrate why the use of the Research Genetics software program does not render the claimed invention obvious." Whether intentional or not, it appears that applicant has conceded that the prior art does render the claimed invention obvious and is seeking the Office to make the case that the invention is not rendered obvious. Applicant's arguments have been fully considered. As an initial matter, the Office declines applicant's offer for the Office to prove the null

> hypothesis and secondly, the Office agrees with applicant that the combination of prior art, and especially the teachings of Research Genetics, does render the claimed invention obvious.

Applicants point out that the Examiner is fully aware that applicants have not conceded at any time in the past and do not now concede that the claimed invention is rendered obvious by the prior art and to allege otherwise is inappropriate, unproductive and prejudicial because it frustrates applicants' good faith efforts to prosecute this application in an efficient and cost-effective manner. Applicants further point out that what is being requested is clear and relevant to applicants' position in the event of an appeal and the Examiner is well aware that it is not a request that the Office "prove the null hypothesis." Applicants thus request that they be afforded the courtesy of an appropriate and legitimate response to their request for an explanation from both the Examiner and the Examiner's supervisor regarding previously submitted arguments directed to the Research Genetics advertisement.

Applicants do note that the description of the teachings of the Research Genetics advertisement as a basis for support of the 35 U.S.C. § 103 rejection has been expanded in the present Office Action to include a statement that "...the designing of one sequence over that of another, especially when the very source is known and the prior art directs one to use such a sequence, speaks of routine optimization," which the Office Action alleges is unpatentable.

As the Examiner has already acknowledged, neither Montagnier et al. nor the Research Genetics advertisement provide any teaching or suggestion to select the specific oligonucleotides or their combinations as set forth in the claimed invention. Thus, the "very source" was not known and the prior art does not direct one to use any such sequences, so one of ordinary skill in the art, relying on these references, could not have produced, and would not have been motivated to produce, the claimed invention by "routine optimization." It is also clear from the disclosure of the specification that this invention was not the result of routine optimization and thus, this general statement contributes nothing to further support the Examiner's allegation that the disclosure of the

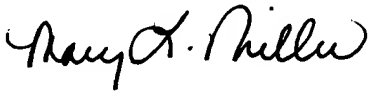
Research Genetics Advertisement renders the claimed invention obvious.

As set forth above and for the reasons previously made of record, applicants believe the pending rejection under 35 U.S.C. § 103 is overcome, absent convincing evidence to the contrary. Thus, applicants respectfully request the withdrawal of this rejection and the allowance of the pending claims to issue. Should this rejection be maintained, applicants request a detailed explanation regarding why it is maintained from both the Examiner and the Examiner's supervisor.

Applicants emphasize that the Examiner is invited and encouraged to contact the undersigned directly if such contact will expedite the prosecution of the pending claims to issue.

No fee is believed to be due with this response. However, the Commissioner is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account 50-0220.

Respectfully submitted,



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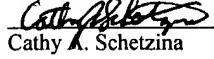

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